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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/884,274 | 06/19/2001 | Toshifumi Oida | 36856.517 | 1664 |

54066 7590 11/30/2005

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| EXAMINER |
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KNOWLIN, THJUAN P

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| ART UNIT | PAPER NUMBER |
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2642

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 09/884,274 | Applicant(s) OIDA ET AL. | |
| | Examiner Thjuan P. Knowlin | Art Unit 2642 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on September 19, 2005 has been entered. Claims 1, 6, and have been amended. Claims 5 and 11-24 have been cancelled. No claims have been added. Claims 1-4 and 6-10 are now pending in this application, with claim 1 being independent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima (US 6,526,270).
3. In regards to claims 1, 6, and 9, Nakashima discloses an RF module comprising: a multi-layered substrate (e.g. circuit board/portable telephone 50); a base-band IC (See Fig. 1 and base-band IC 2 and Fig. 5 and base-band IC 55), a memory IC (See Fig. 1, ROM 11, and RAM 10) and an RF-IC (See Fig. 1 and IrDA modulation/demodulation IC 3 and Fig. 1 and IrDA modulation/demodulation IC 58), said base-band IC and memory IC being mounted on the first side of said multi-layered substrate (See Fig. 1 and Fig. 5), and said RF-IC being mounted on the second side of

said multi-layered substrate (See Fig. 1 and Fig. 5); an RF passive component incorporated in said multi-layered substrate; and a wiring pattern incorporated in said multi-layered substrate, said wiring pattern interconnecting said base-band IC and said memory IC (See col. 4 lines 32-60); and a shielding ground electrode pattern interposed between the first side of said multi-layered substrate on which said base-band IC and said memory IC are mounted and the second side of said multi-layered substrate on which said RF-IC is mounted (See Fig. 1 and Fig. 5). Nakashima, however, does not specifically disclose an RF module. Nakashima does disclose an IrDA modulation/demodulation integrated circuit device 3, and like an RF module, it is capable of communicating via radio frequency (RF) waves (See col. 1 lines 18-27). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to employ this feature within the system, as a way of communicating via infrared rays, as well as via radio frequency waves.

4. In regards to claims 2 and 10, Nakashima discloses an RF module, further comprising an antenna incorporated in said multi-layered substrate (See Fig. 1 and transmission/reception circuit 6).

5. In regards to claim 3, 4, and 8, Nakashima discloses an RF module, wherein at least one of said base-band IC, said memory IC, and said RF-IC is a bare-chip (See col. 4 lines 18-31).

6. In regards to claim 7, Nakashima discloses an RF module, further comprising at least one trimming electrode pattern (See Fig. 1 and control register 9/PLL {phase-locked loop} circuit 9) disposed on a surface of said multi-layered substrate and

arranged to enable adjustment of frequency characteristics of the RF module (See col. 3 lines 53-67 and col. 4-5 lines 61-2).

Response to Arguments

7. Applicant's arguments with respect to claims 1-4 and 6-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

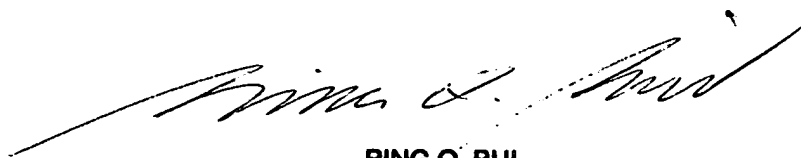
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thjuan P. Knowlin whose telephone number is (571) 272-7486. The examiner can normally be reached on Mon-Fri 8:30-5:00pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on (571) 272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2642

Thjuan P. Knowlin

A handwritten signature in black ink, appearing to read "Bing Q. Bui", written in a cursive style.

BING Q. BUI
PRIMARY EXAMINER